

Amendment and Response

Applicant: Willard Charles Raymond

Serial No.: 10/622,850

Filed: July 18, 2003

Docket No.: A126.116.102

Title: ADJUSTABLE WAFER ALIGNMENT ARM

REMARKS

The following remarks are made in response to the Non-Final Office Action mailed October 21, 2005. In that Office Action, the drawings were objected to under 37 C.F.R. § 1.83(a) and the disclosure was objected to because of minor informalities at page 4, line 11. Claims 5 and 10-17 were rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention. Claims 1, 3-7, 10, and 14-16 were rejected under 35 U.S.C. § 102(b) as being anticipated by Fuke et al., U.S. Patent No. 6,062,795 ("Fuke"). Claims 2, 8, 9, and 17 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Fuke. Claims 11-13 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Fuke in view of Aoki et al., U.S. Patent No. 5,520,276 ("Aoki").

With this Response, claims 1 and 10 have been amended and newly presented claims 18-20 have been added. Claims 1-20 are presented for consideration and allowance.

Support for Amendments

Support for the amendments to claim 1 can be found throughout the specification, for example, at the paragraph beginning at page 4, line 5 and the paragraph beginning at page 5, line 28.

Support for the amendment to claim 10 can be found throughout the specification, for example, at the paragraph beginning at page 4, line 5 and the paragraph beginning at page 5, line 28.

Support for newly presented claims 18 and 19 can be found throughout the specification, for example, at the paragraph beginning at page 6, line 26.

Support for newly presented claim 20 can be found throughout the specification, for example, at the paragraph beginning at page 4, line 5 and the paragraph beginning at page 5, line 28.

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Objection to the Drawings

The drawings stand objected to under 37 C.F.R. § 1.83(a). In particular, the Examiner pointed out that “an actuator” is present in the claims, but not explicitly called out in the drawings. A corrected drawing sheet in compliance with 37 C.F.R. § 1.21(d) accompanies this Amendment and Response illustrating an actuator in schematic form and designating it as such. Support for the amendments to the drawings can be found throughout the specification, for example at page 5, lines 15-27. It should also be noted that the specification has been amended to include reference numbers corresponding to the corrected drawing sheet. As such, it is respectfully requested that the Examiner’s objection to the drawings be withdrawn.

Objection to the Specification

The specification stands objected to according to informalities present on page 4, line 11. With this Amendment and Response, reference to “cassette 16” at page 4, line 11 has been amended to “film frame 14” according to the Examiner’s suggestion. As such, it is respectfully requested that the Examiner’s objection be withdrawn.

35 U.S.C. § 112 Rejections

Claims 5 and 10-17 stand rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention. In order to meet the indefiniteness standard, a claim must satisfy two requirements: 1) it must set forth what the Applicant regards as the invention, and 2) the claims must particularly point out and distinctly define the metes and bounds of the subject matter claimed. MPEP § 2171. In evaluating the first requirement, the MPEP advises that “a rejection based on a failure to satisfy this [first] requirement is appropriate only where Applicant has stated somewhere other than the application as filed, that the invention is something different than what is defined by the claims.” MPEP § 2172(I) (emphasis added). The grounds for rejecting claims 5 and 10-17 are based on a perception that “maintains” as used in the claims is unclear and that

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"contains" is more appropriate. As such, it is believed that the first requirement is not in issue. Therefore, the discussion properly turns to the second requirement.

Definiteness of claim language must be analyzed, not in vacuum, but in light of: "(A) The content of the particular application disclosure; (B) The teachings of the prior art; and (C) The claim interpretation that will be given by one possessing the ordinary level of skill in the pertinent art at the time the invention was made." MPEP § 2173.02. For at least the following reasons, it is believed that the factors delineated above support the definiteness of claims 5 and 10-17.

In particular, the term "maintains" is consistently used throughout the specification, for example, at page 4, line 8, at page 4, line 31, in claim 1, in claim 5, in claim 10, and in claim 12. Such consistent, repeated use of the term "maintains" provides sufficient context and meaning to the term such that "those skilled in the art would understand what is claimed when the claim is read in light of the specification." MPEP § 2173.02 (quoting *Orthokinetics, Inc. v. Safety Travel Chairs, Inc.*, 806 F.2d 1565, 1576 (Fed. Cir. 1986)). In other words, it is believed that one having ordinary skill in the art would view and understand the term "maintains," not in a vacuum, but in light of its usage throughout the specification and claims. Although the Examiner has indicated that the term "maintains" should be "contains," "Examiners are encouraged to suggest claim language to applicants to improve the clarity or precision of the language used, but should not reject claims or insist on their own preference if other modes of expression selected by applicants satisfy the statutory requirement." MPEP § 2173.02 (emphasis added). It is believed that the rejection of claims 5 and 10-17 under 35 U.S.C. § 112, second paragraph, has been fully traversed. Withdrawal of the rejection on such grounds and notice to that effect are respectfully requested.

35 U.S.C. §§ 102, 103 Rejections

Claims 1-17 stand rejected under either 35 U.S.C. § 102(b) as being anticipated by Fuke, under 35 U.S.C. § 103(a) as being unpatentable over Fuke, or under 35 U.S.C. § 103(a) as being unpatentable over Fuke in view of Aoki. Independent claim 1

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as amended relates, in part, to a film frame handling station including a frame support adapted to be vertically adjustable relative to the cassette following loading into the load port for selective alignment with each of the slots in the cassette for film frame removal or insertion, the frame support including a plurality of horizontally adjustable contact elements. For at least the following reasons, it is believed that the cited references fail to teach or suggest such limitations.

In fact, Fuke not only fails to teach or suggest such limitations, Fuke specifically teaches away from a frame support adapted to be vertically adjustable relative to a loaded cassette for selective alignment with each of the slots in the cassette. Fuke specifically teaches that a screw shaft 15 is rotated to move a wafer ring cassette 10 upward or downward so that the wafer ring cassette 10 is positioned on a wafer ring conveying level 17. *Fuke* at col. 5, ll. 8-12. In other words, the wafer ring cassette 10 is moved to align a wafer ring 1 to the guide rails 86A and 86B at the wafer ring conveying level 17, and not the other way around.

This arrangement is necessary to the functionality of Fuke. First, the cassette 10 must move vertically to align wafer rings to the wafer ring conveying level 17 as the pusher 16 is installed at the wafer ring conveying level 17. In particular, the pusher 16 "is installed at the wafer ring conveying level 17 so as to push out... a wafer ring 1 (stored inside the wafer ring cassette 10) through the opening 11 of the cassette 10." *Fuke* at col. 3, ll. 6-10. Thus, in order for the pusher 16 to be operable to eject wafer rings from the wafer ring cassette 10, the wafer ring cassette 10 must be movable upward or downward to align wafer rings to the wafer ring conveying level 17 and thus, the pusher 16.

Second, the pair of guide rails 86A and 86B are adapted to pivot between a horizontal orientation at the wafer ring conveying level 17 and a vertical orientation (shown in FIG. 5). *Fuke* at col. 6, ll. 19-27. In order for the guide rails 86A and 86B to be properly aligned to any of the wafer rings in the horizontal orientation, and in order for the pusher 16 to be aligned with the guide rails 86A and 86B, the wafer ring cassette 10 must move to align the wafer rings to the wafer ring conveying level 17. The guide

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rails 86A and 86B are not otherwise vertically adjustable between a plurality of slots for alignment with each of the slots. Indeed, such a modification would be completely unnecessary and defeat the functionality of Fuke. Thus, Fuke specifically teaches away from the limitations of independent claim 1 as amended and incorporation of such limitations would defeat the functionality of Fuke. As such, independent claim 1 is patentably distinct from the cited references.

In view of the preceding clarifications, it is believed that independent claim 1 and the claims depending therefrom are in an allowable form. Additionally, claim 10 as amended incorporates limitations similar to those described above in association with independent claim 1 as amended. In particular, claim 10 as amended relates, in part, to moving the frame support in a linear, vertical fashion relative to the cassette from a first position to a second position to align the plurality of contact elements with a first slot of the cassette. In contrast, the guide rails 86A and 86B (and related assembly components) of Fuke cannot move in a linear, vertical fashion, and Fuke's method for providing slot alignment does not entail any movement of a frame support relative to a cassette. As such, it is believed that independent claim 10 and the claims depending therefrom similarly present patentably distinct material to the cited references. In sum, it is believed that claims 1-20 are in an allowable form. As such, withdrawal of the rejection of claims 1-17, allowance of claims 1-20, and notice to that effect are respectfully requested.

The dependent claims can be further distinguished from the cited references for at least the following, additional reasons. For example, claim 8 relates to each of the plurality of contact elements of claim 1 including a roller. Similarly, claim 17 relates to each of the plurality of contact elements of claim 10 (via claim 16) being a roller. Fuke is directed to a device using a pair of guide rails to engage edges of the wafer ring 1 to correct rotational orientation of the wafer ring 1. *E.g., Fuke* at abstract. While it is acceded in the Office Action that Fuke fails to teach or suggest rollers, the position is taken that it would be obvious to incorporate such features "as they are simply design expediciencies which would neither require undue experimentation nor produce

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unexpected results.” *NFOA 10-21-05* at p. 4, para. 8. However, there would be no reasonable expectation of success in such a modification. In particular, the elongate guide rails of Fuke are abutted against edges of the wafer ring 1 to ensure proper alignment of the wafer ring 1. There is no indication or guidance in Fuke as to how or whether rollers, as required by claims 8 and 17, could accomplish this primary objective. In fact, it is more likely that rollers would be incapable of accomplishing Fuke’s primary objective. As such, one having ordinary skill in the art would not have a reasonable expectation of modifying Fuke in the manner suggested without destroying the functionality or otherwise defeating the stated purpose of the Fuke reference. It is believed claims 8 and 17 should be deemed allowable for at least such additional reasons.

Newly presented claims 18-20 are also believed to be distinguishable from the cited references for additional reasons to those already described. For example, claim 18 relates, in part, to the plurality of horizontally adjustable contact elements of claim 1 being vertically compliant. In turn, claim 19, relates, in part, to the method of claim 10 including vertically deflecting at least one of the plurality of contact elements during the movement of the film frame relative to the second slot. It is believed Fuke specifically teaches away from such limitations. Instead, Fuke relates to the guide rails 86A and 86B being used in an open-and-close mechanism to engage the wafer ring 1 in order to ensure that rotational orientation and/or offset of the wafer ring 1 is corrected. *Fuke* at Abstract; col. 7, l. 49 – col. 8, l. 5.

With reference to FIG. 1 of Fuke, it should be understood that the guide rails 86A and 86B compressively engage opposing, flat edges of the wafer ring 1. With that mode of operation in mind, Fuke presumptively requires that the wafer ring 1 is rigidly compressed between the guide rails 86a and 86b, such that “any rotational deviation or offset of the wafer ring 1 on the guide rails 86a and 86b is corrected.” *Fuke* at col. 5, ll. 54-62 (emphasis added). In view of such exacting requirements, one having ordinary skill in the art would avoid using vertically compliant contact elements and/or vertical deflection of such contact elements, as such compliance and/or deflection would

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interfere with proper alignment of the wafer ring 1. Thus, Fuke fails to teach or suggest the limitations of claims 18 and 19, and actually teaches away from such limitations. In particular, it is believed that vertical compliancy of guide rails 86A and 86B would defeat the stated purpose and/or functionality of Fuke, i.e., to prevent any rotational deviation or offset of the wafer ring 1 on the guide rails 86A and 86B. As such, it is believed that claims 18 and 19 are allowable for at least such additional reasons.

As another example, new claim 20 relates, in part, to moving the frame support vertically to a third position to align a plurality of contact elements with a second cassette slot. The cassette is maintained in a fixed position on the load port during movement of the frame support from the second position to the third position.

In direct contrast to such limitations, Fuke specifically teaches that cassette 10 moves between various Z heights to accomplish alignment to wafer rings 1 and corresponding slots, rather than a cassette that is maintained in a fixed position. *Fuke* at col. 2, l. 66 – col. 3, l. 10. As such, Fuke, in fact, teaches away from the limitations of claim 20. It is respectfully submitted that claim 20 should be deemed allowable for at least such additional reasons.

CONCLUSION

In view of the above, Applicant respectfully submits that pending claims 1-20 are in form for allowance and are not taught or suggested by the cited references. Therefore, reconsideration and withdrawal of the rejections of claims 1-17 and allowance of claims 1-20 are respectfully requested.

No fees are required under 37 C.F.R. 1.16(b)(c). However, if such fees are required, the Patent Office is hereby authorized to charge Deposit Account No. 50-0471.

The Examiner is invited to contact the Applicant's representative at the below-listed telephone numbers to facilitate prosecution of this application.

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Any inquiry regarding this Amendment and Response should be directed to Timothy A. Czaja at Telephone No. (612) 573-2004, Facsimile No. (612) 573-2005. In addition, all correspondence should continue to be directed to the following address:

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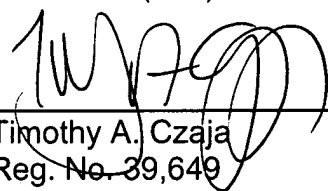
Respectfully submitted,

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CERTIFICATE UNDER 37 C.F.R. 1.8:

The undersigned hereby certifies that this paper or papers, as described herein, are being deposited in the United States Postal Service, as first class mail, in an envelope addressed to: Mail Stop Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on this 23rd day of January, 2006.

By: Name: Timothy A. Czaja

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IN THE DRAWINGS

Please amend FIG. 1 as shown in the attached drawing replacement sheet.